

## A Solid State Tissue Equivalent Detector for Microdosimetry, Phase I

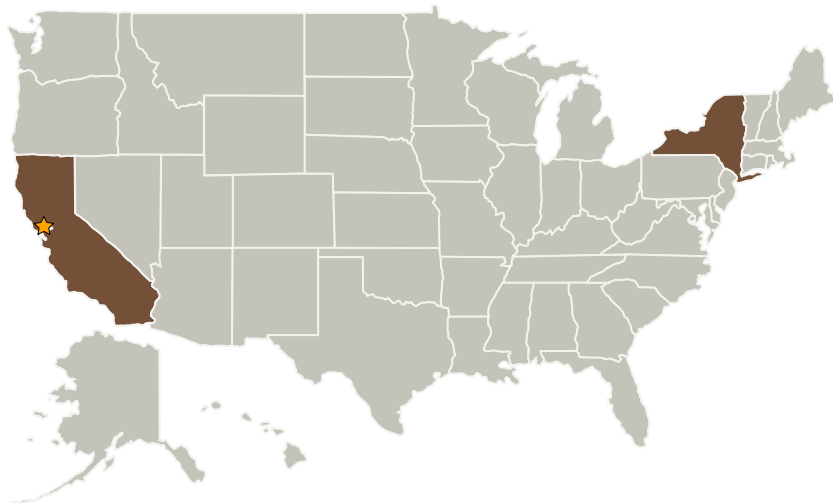


Completed Technology Project (2009 - 2009)

## Project Introduction

QEL proposes to construct a tissue equivalent microdosimeter using a solid state tissue equivalent detector (SSTED). The Phase I study will produce the working SSTEDs and the Phase II will provide a viable completed microdosimeter. An organic semiconductor device based on QEL's novel design is described. The expected electrical properties of the device both in the quiescent state and under exposure are calculated. The fabrication process is described in detail and the supporting electronics are defined as well. A complete set of tests that will determine the feasibility of the SSTEDs is defined. The first test will determine if the detectors' response matches the expected response based on detector geometry. The subsequent tests will determine the sensitivity, calibration factors, and tissues equivalence of the fabricated devices.

## Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
QEL	Supporting Organization	Industry	Brooklyn, New York



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## Organizational Responsibility

### Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

### Lead Center / Facility:

Ames Research Center (ARC)

### Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Completed Technology Project (2009 - 2009)

## Primary U.S. Work Locations

California

New York

## Project Management

### Program Director:

Jason L Kessler

### Program Manager:

Carlos Torrez

## Technology Areas

### Primary:

- TX08 Sensors and Instruments
  - └ TX08.1 Remote Sensing Instruments/Sensors
    - └ TX08.1.1 Detectors and Focal Planes